

What is claimed is:

1. A valve for sampling a process from a tank or conduit, comprising:

a first inlet;

an outlet;

an internal cavity in communication with said first inlet and said outlet;

a diaphragm;

a sealing tip;

a valve actuating rod, said valve actuating rod being connected to a non-process side of said diaphragm, said valve actuating rod being movable to move said sealing tip into sealing contact with an annular surface about said first inlet into said internal cavity to reversibly seal the internal cavity from communication with a process;

a seal, said seal being formed between a first, upper process side of a bottom wall of said internal cavity and a process side of said diaphragm to isolate said valve actuating rod and the surrounding outside environment from the process.

2. The valve according to claim 1, wherein said bottom wall of said internal cavity includes a hole therethrough for receiving said valve actuating rod, said bottom wall including a first portion around said hole being raised with respect to a second portion of said bottom wall immediately adjacent thereto, said first portion being sealed by said seal.

3. The valve according to claim 1, wherein said sealing tip is formed by an intermediate portion of said diaphragm, said intermediate portion extending over a widened

insert attached to a top of said valve operating rod extending over a widened insert attached to a top of said valve operating rod.

4. The valve according to claim 1, wherein said sealing tip is formed by a separate flexible element from said diaphragm, said separate flexible element extending over a widened insert attached to a top of said valve operating rod extending over a widened insert attached to a top of said valve operating rod

5. The valve according to claim 1, wherein said first, upper side of said bottom wall is located above said first inlet.

6. A valve for sampling a process from a tank or conduit, comprising:
a first inlet;
an outlet;
an internal cavity in communication with said first inlet and said outlet, said internal cavity including a bottom wall having a hole formed therein;
a diaphragm;
a valve actuating rod extending into said internal cavity through said hole in said bottom wall,
a sealing tip, said sealing tip being attached to said valve actuating rod, said valve actuating rod being movable to reversibly move said sealing tip into sealing contact with an annular surface about said first inlet into said internal cavity to reversibly seal the internal cavity from communication with a process;

a first static seal, said first static seal being formed between a process side of said sealing tip and a first, process side of said diaphragm; and

a second static seal, said second static seal being formed between a first, upper process side of said bottom wall of said internal cavity and said first, process side of said diaphragm to isolate said valve actuating rod and the surrounding outside environment from the process.

7. The valve according to claim 6, wherein said bottom wall includes a first portion around said hole raised with respect to a second portion of said bottom wall immediately adjacent thereto, said first portion being sealed with said second static seal.

8. The valve according to claim 6, wherein said sealing tip is formed by a separate flexible element from said diaphragm, said separate flexible element extending over a widened insert attached to a top of said valve operating rod extending over a widened insert attached to a top of said valve operating rod

9. A valve for sampling a process from a tank or conduit, comprising:

a first inlet;

an outlet;

an internal cavity in communication with said first inlet and said outlet;

a sealing tip;

a valve actuating rod, said valve actuating rod being connected to said sealing tip and movable to move said sealing tip into sealing contact with an annular surface about said first

inlet into said internal cavity to reversibly seal the internal cavity from communication with a process;

a seal, said seal being formed between a process side of a bottom wall of said internal cavity and a process side of said sealing tip to isolate said valve actuating rod and the surrounding outside environment from the process.

10. The valve according to claim 9, wherein said bottom wall of said internal cavity includes a hole therethrough for receiving said valve actuating rod, said bottom wall including a first portion around said hole being raised with respect to a second portion of said bottom wall immediately adjacent thereto, said first portion being sealed by said seal.

11. The valve according to claim 10, wherein said raised portion is a cylindrical portion having an outside diameter, and said sealing tip includes a sealing sleeve for sliding on said outside diameter of said cylindrical portion, said seal being located between said sealing sleeve and said cylindrical portion.